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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/560,902	04/05/2006	Holger von Stenzel	KURARAY-11	2426

7590 11/18/2009  
Millen White Zelano & Branigan  
Arlington Courthouse Plaza 1  
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EXAMINER
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HEINCER, LIAM J

ART UNIT	PAPER NUMBER
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1796

MAIL DATE	DELIVERY MODE
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11/18/2009

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/560,902	<b>Applicant(s)</b> STENZEL ET AL.	
	<b>Examiner</b> Liam J. Heincer	<b>Art Unit</b> 1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 7/29/09.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) 5-10 and 20 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4 and 11-19 is/are rejected.
- 7) ☒ Claim(s) 18 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☒ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>12/16/2005</u> .  | 6) <input type="checkbox"/> Other: _____                          |

**DETAILED ACTION**  
***Election/Restrictions***

Applicant's election with traverse of group I, claims 1-4 and newly added claims 11-19 in the reply filed on July 29, 2009 is acknowledged. The traversal is on the ground(s) that Papenfuhs et al. does not teach a support electrolyte and plasticizer as required by the special technical feature of the application. This is not found persuasive because Papenfuhs et al. teaches the claimed polyvinylbutyral in combination with a plasticizer (3:37-51) and a magnesium cation containing compound/support electrolyte (Example 18).

The requirement is still deemed proper and is therefore made FINAL.

Claims 5-10 and 20 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected inventions, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on July 29, 2009.

***Oath/Declaration***

The oath or declaration is defective. A new oath or declaration in compliance with 37 CFR 1.67(a) identifying this application by application number and filing date is required. See MPEP §§ 602.01 and 602.02.

The oath or declaration is defective because: No translation or English text of the oath or declaration has been provided. See 37 C.F.R. 1.69.

***Information Disclosure Statement***

The information disclosure statement filed December 16, 2005 fails to comply with 37 CFR 1.98(a)(2), which requires a legible copy of each cited foreign patent document; each non-patent literature publication or that portion which caused it to be listed; and all other information or that portion which caused it to be listed. It has been placed in the application file, but the information referred to therein has not been considered.

### ***Claim Objections***

Claim 18 is objected to because of the following informalities: Claim 18 reads “LiC10<sub>4</sub>” rather than “LiClO<sub>4</sub>” in line 2. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-4, 13-16, and 19 are rejected under 35 U.S.C. 102(b) as being anticipated by Papenfuhs et al. (WO 03/020776). Note: US Patent 7,358,304 is being used as an English language equivalent of the WIPO publication.

Considering Claims 1, 4, 13, and 14: Papenfuhs et al. teaches a composition comprising a polyvinylbutyral resin having vinyl alcohol units, vinyl acetate units (Example 2), vinyl butyral units/units of acetal I where R<sup>1</sup> is a C<sub>4</sub> alkyl (2:46-49) and units derived from an acid functional aldehyde that is preferably glycolic acid/formula II where R<sup>3</sup> is a direct bond (2:40-45). Papenfuhs et al. teaches the composition as further comprising a plasticizer (3:37-51) and a magnesium cation containing compound/support electrolyte (Example 18).

Considering Claims 2, 15, and 16: Papenfuhs et al. teaches examples having 1270:1, 127:1, and 63:1 ratios of vinyl butyrate groups to coacetate groups (Examples 2-4). Each example includes 77.5% vinyl butyrate groups with varying coacetate contents.

Considering Claim 3: Papenfuhs et al. teaches an example having 77.6% acetal groups, 21.2% vinyl alcohol groups and 1.17 polyvinyl acetate groups (Example 2).

Considering Claim 19: Papenfuhs et al. teaches the plasticizer as being a diester of diethylene, triethylene or tetraethylene glycol/compounds of formula III where n is 2-4 (3:46-51).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-4 and 11-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Heckner et al. (WO 0240578) in view of Papenfuhs et al. (WO 03/020776). Note: A Machine translation is being used for WO 02/0578 and US Patent 7,358,304 is being used as an English language equivalent of WO 03/020776.

Considering Claim 1-4 and 13-17: Heckner et al. teaches a composition comprising a polyvinyl butyrate having butyrate groups/units of acetal I where R<sup>1</sup> is a C<sub>4</sub> alkyl, vinyl alcohol groups and acetate groups (pg. 1), a plasticizer (pg. 2) and a lithium salt/support electrolyte (pg. 2).

Heckner et al. does not teach the polyvinyl butyrate as having a coacetate of the formula II. However, Papenfuhs et al. teaches a polyvinyl butyrate having vinyl alcohol units, vinyl acetate units (Example 2), vinyl butyral units/units of acetal I where R<sup>1</sup> is a C<sub>4</sub> alkyl (2:44-49) and units derived from an acid functional aldehyde that is preferably glycolic acid/formula II where R<sup>3</sup> is a direct bond (2:40-45). Papenfuhs et al. teaches

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examples having 1270:1, 127:1, and 63:1 ratios of vinyl butyrate groups to coacetate groups (Examples 2-4). Each example includes 77.5% vinyl butyrate groups with varying coacetate contents. Papenfuhs et al. teaches an example having 77.6% acetal groups, 21.2% vinyl alcohol groups and 1.17 polyvinyl acetate groups (Example 2) and broadly teaches the acetal content as being greater than 50% (2:32-59). Heckner et al. and Papenfuhs et al. are analogous art as they are concerned with the same field of endeavor, namely laminated safety glass comprising polyvinyl butyral. It would have been obvious to a person having ordinary skill in the art at the time of invention to have used the modified polyvinyl butyral of Papenfuhs et al. in the composition of Heckner et al., and the motivation to do so would have been, as Papenfuhs et al. suggests, to increase the solvent resistance of films made from the composition through crosslinking of the polyvinyl butyral (4:49-53).

Considering Claims 11 and 12: Heckner et al. teaches the composition as comprising 20 to 45% by weight of the plasticizer and 0.1 to 5 percent by weight of the electrolyte, with the balance being the resin (pg. 2).

Considering Claim 18: Heckner et al. teaches the lithium salt as being  $\text{LiBF}_4$ ,  $\text{Li ClO}_4$ ,  $\text{LiPF}_6$ ,  $\text{LiCF}_3\text{SO}_3$ , or  $\text{LiN}(\text{SO}_2\text{CF}_3)_2$  (pg. 2).

Considering Claim 19: Heckner et al. does not teach the plasticizer as being of formula III. However, Papenfuhs et al. teaches the plasticizer as being a diester of diethylene, triethylene or tetraethylene glycol/compounds of formula III where n is 2-4 (3:46-51). It would have been obvious to a person having ordinary skill in the art at the time of invention to have used the plasticizer of Papenfuhs et al. in the composition of Heckner et al., and the motivation to do so would have been, as Papenfuhs et al. suggests, it is a well known plasticizer for polyvinyl butyral (3:46-51).

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. See PTO Form 892.

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***Correspondence***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Liam J. Heincer whose telephone number is 571-270-3297. The examiner can normally be reached on Monday thru Friday 7:30 to 5:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Eashoo can be reached on 571-272-1197. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Mark Eashoo/

Supervisory Patent Examiner, Art Unit 1796

LJH

October 9, 2009